

HYPERHIDROSIS

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Hyperhidrosis is a condition characterized by abnormally increased sweating in excess of that required for regulation of body temperature.

Although primarily a physical burden, hyperhidrosis can deteriorate quality of life from a psychological, emotional, and social perspective.

Both the words diaphoresis and hidrosis can mean either perspiration or *excessive* perspiration.





Hyperhidrosis affects all aspects of life, including work and related professional activities, the activities of daily living and normal, interpersonal social actions.

Sweaty hands can occur while meeting someone for the first time, through nervousness or emotional distress.

Because hands are exposed in social and professional settings, many patients with Hyperhidrosis are self-conscious and may avoid social contact. They may be reluctant to shake hands or handle paperwork. Patients have even been embarrassed to hold the hands of those they love.



- **Hyperhidrosis** can either be *generalized*, or *localized* to specific parts of the body.

Hands, feet, armpits, groin, and the facial area are the most active regions of perspiration due to the high number of sweat glands.

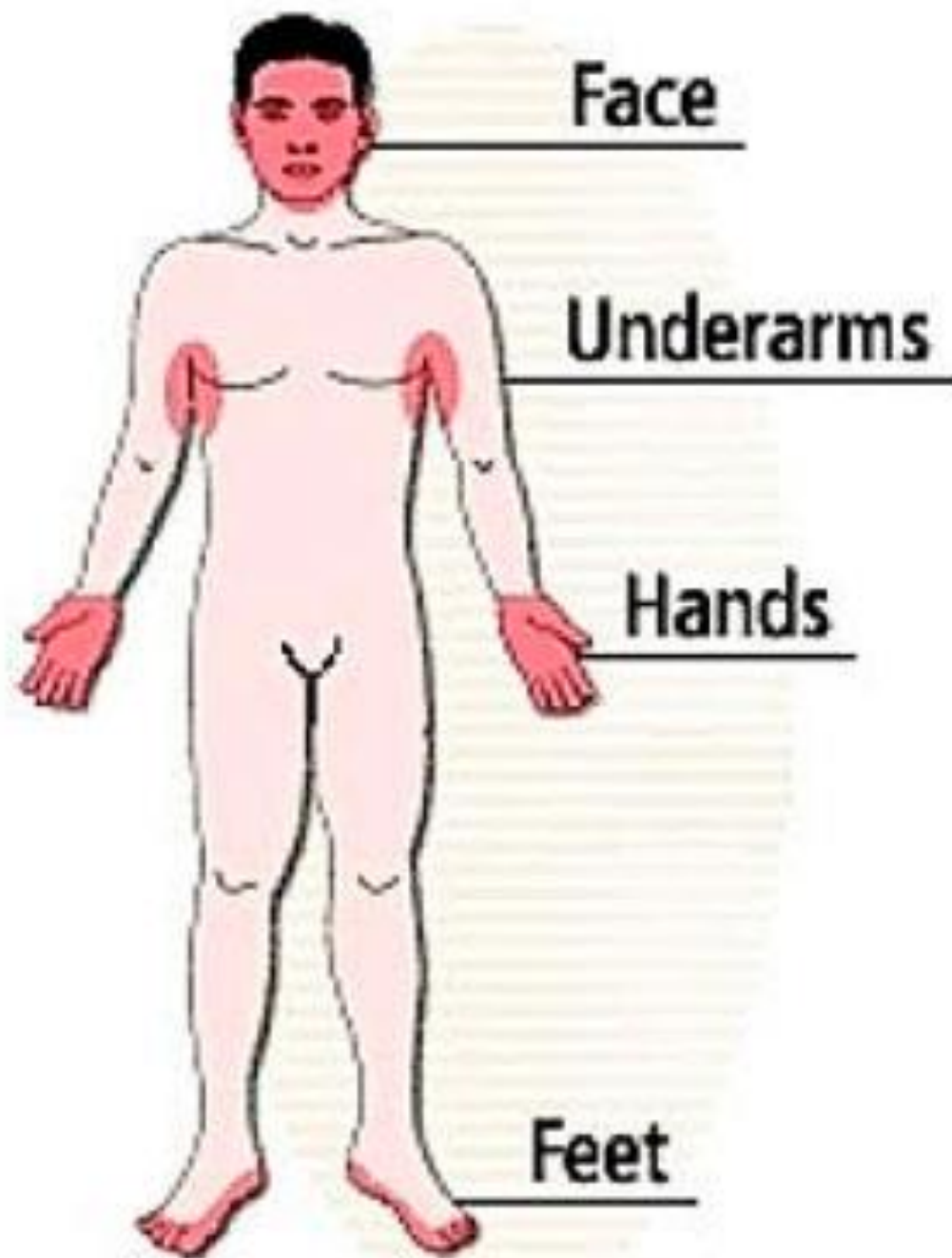
- When excessive sweating is localized (e.g. palms, soles, face, underarms, scalp) it is referred to as *primary hyperhidrosis* or focal hyperhidrosis.

- ^{1^{ry}} or focal hyperhidrosis may be further divided by the area affected:

→ palmoplantar hyperhidrosis

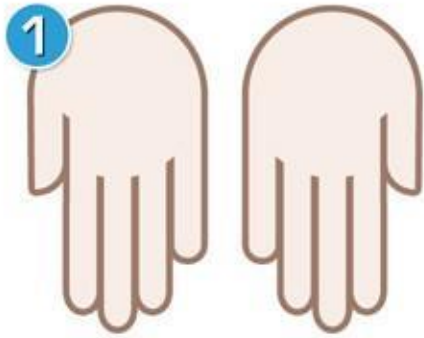
→ gustatory hyperhidrosis (food)

Classic Locations of Hyperhidrosis

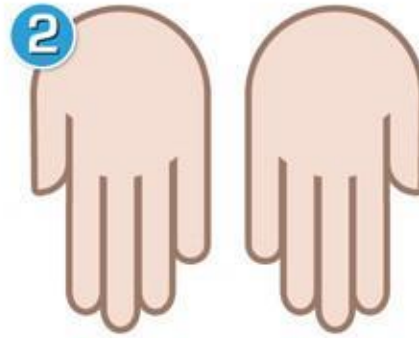


VISUAL SCALE FOR THE QUANTIFICATION OF HYPERHIDROSIS

Dry hands



Normal hands



Humid hands



Wet hands



Soaked & dripping
hands



Soaked & very dripping
hands



Classification

Hyperhidrosis can also be classified by onset, either congenital or acquired.

Primary or focal hyperhidrosis usually starts during adolescence or even earlier and seems to be inherited → AD

It must be distinguished from *2ry* hyperhidrosis, which can start at any point in life due to:

- Disorder of the thyroid or of pituitary glands
- DM
- Tumors
- Menopause
- mercury poisoning.

Another classification scheme is based on possible causes of hyperhidrosis.

One classification scheme uses the amount of skin affected. In this scheme, excessive sweating in an area of 100 square centimeters (16 square inches) or more is differentiated from sweating that affects only a small area.

Causes

- The cause of 1^{ry} hyperhidrosis is unknown, although some physicians claim it is caused by over-activity of the sympathetic nervous system , Anxiety.
- A common complaint of patients is they get nervous because they sweat, then sweat more because they are nervous.
- Other factors can play a role, including certain foods and drinks , nicotine, caffeine, and smells.

Primary hyperhidrosis

Primary (focal) hyperhidrosis has many causes:

- Idiopathic unilateral circumscribed hyperhidrosis
- Reported association with:
 - Blue rubber bleb nevus
 - Glomus tumor
 - POEMS syndrome (polyneuropathy, organomegaly, endocrinopathy, myeloma protein, and skin changes)
 - Burning feet syndrome (Goplan's)
 - Trench foot
 - Causalgia
 - Pretibial myxedema

•Gustatory sweating associated with:

→ Encephalitis

→ Syringomyelia

→ Diabetic neuropathies

→ Herpes zoster (shingles)

→ Parotitis

→ Parotid abscesses

→ Thoracic sympathectomy

→ Auriculotemporal or Frey's syndrome

•Miscellaneous:

→ Lacrimal sweating (due to postganglionic sympathetic deficit)

→ Emotional hyperhidrosis

Secondary hyperhidrosis

2^{ry} (generalized) hyperhidrosis has many causes including:

- **Cancer**: including lymphoma, pheochromocytoma, carcinoid tumors (resulting in carcinoid syndrome), and tumors within the thoracic cavity.
- **Endocrine** including :
 - ✓ Diabetes mellitus (especially with hypoglycemia),
 - ✓ Acromegaly
 - ✓ Hyperpituitarism
 - ✓ Thyroid disease.

Medications:

1. Selective serotonin reuptake inhibitors (e.g., sertraline)
2. Tricyclic antidepressants,
3. opioids,
4. nonsteroidal anti-inflammatory drugs (NSAIDs),
5. insulin,
6. anxiolytic agents,
7. adrenergic agonists, and
8. cholinergic agonists.

Miscellaneous

- In people with a past history of spinal cord injuries
 - Autonomic dysreflexia
 - Orthostatic hypotension
 - Posttraumatic syringomyelia
- Associated with peripheral neuropathies
- Associated with probable brain lesions

Associated with systemic medical problems:

- Parkinson's disease
- Fibromyalgia
- Congestive heart failure
- Anxiety
- Menopausal state
- Night sweats
- Compensatory
- Infantile acrodynia induced by chronic low-dose mercury exposure, leading to elevated catecholamine accumulation and resulting in a clinical picture resembling pheochromocytoma.

Diagnosis

- **Symmetry** of excessive sweating in hyperhidrosis is most consistent with primary hyperhidrosis.
- Excessive sweating affecting **only one side** of the body is more suggestive of secondary hyperhidrosis and further investigation for a neurologic cause is recommended.

Treatment

Medications

Aluminium chlorohydrate is used in regular antiperspirants.

These antiperspirant are especially effective for treatment of *axillary regions*.

It takes around *three to five days* to see improvement.

The most common side-effect is *skin irritation*.

Anticholinergics *e.g.* *propantheline*

Side-effects, include:

Dry mouth,

Urinary retention,

Constipation,.

SURGERY

Endoscopic thoracic sympathectomy (ETS) :

which entails cutting the thoracic ganglion on the main sympathetic chain that runs alongside the spine.

ETS is generally considered a "safe, and permanent
Division of 3rd and 4th ganglia and the nerve of Cons
at the level of 2nd rib

ETS side-effects

Compensatory sweating (sweating in different areas than prior to the surgery).

(in 20–80%)

Horner's Syndrome (about 1%),

Gustatory sweating (less than 25%) and excessive dryness of the palms.

botulinum injection, in which nerves are blocked by injection of botox but it may cause wasting of hand muscles and neuropathy and the effect lasts for 6 months.

Percutaneous radiofrequency ablation of sympathetic chain or *phenol chemical* ablation

Prognosis

❖ *physiological consequences e.g:*

→ cold and clammy hands,

→ dehydration,

→ skin infections.

❖ *interference* with many routine activities, e.g: securely grasping objects.

❖ The risk of dehydration can limit the ability of some to function in extremely hot (especially if also humid) conditions.

Types of Hyperhidrosis

4. Plantar hyperhidrosis

- severe sweating of the feet
- Usually occurs in conjunction with palmar hyperhidrosis
- Almost impossible to wear sandals with this condition. The sweat makes the feet slip and slide right out of the shoes!
- Uncomfortable and dangerous when driving
- Exercise, dance etc with bare foot will leave wet spots on the floor-not only embarrassing but hazardous for others engaging in the activity



Indications for Treatment



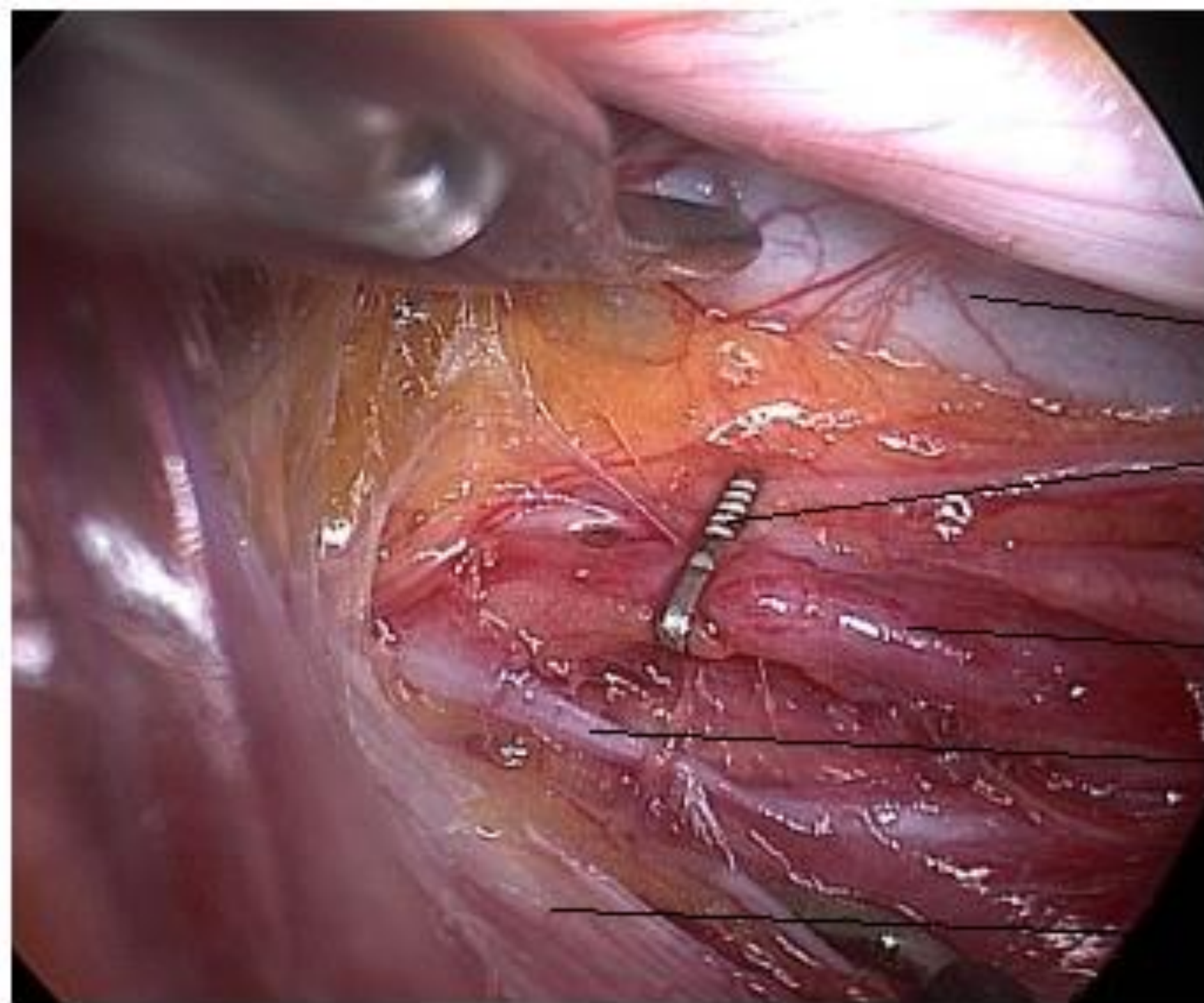
Excessive sweat in
your underarms



Excessive sweat on your palms



Excessive sweat on your soles



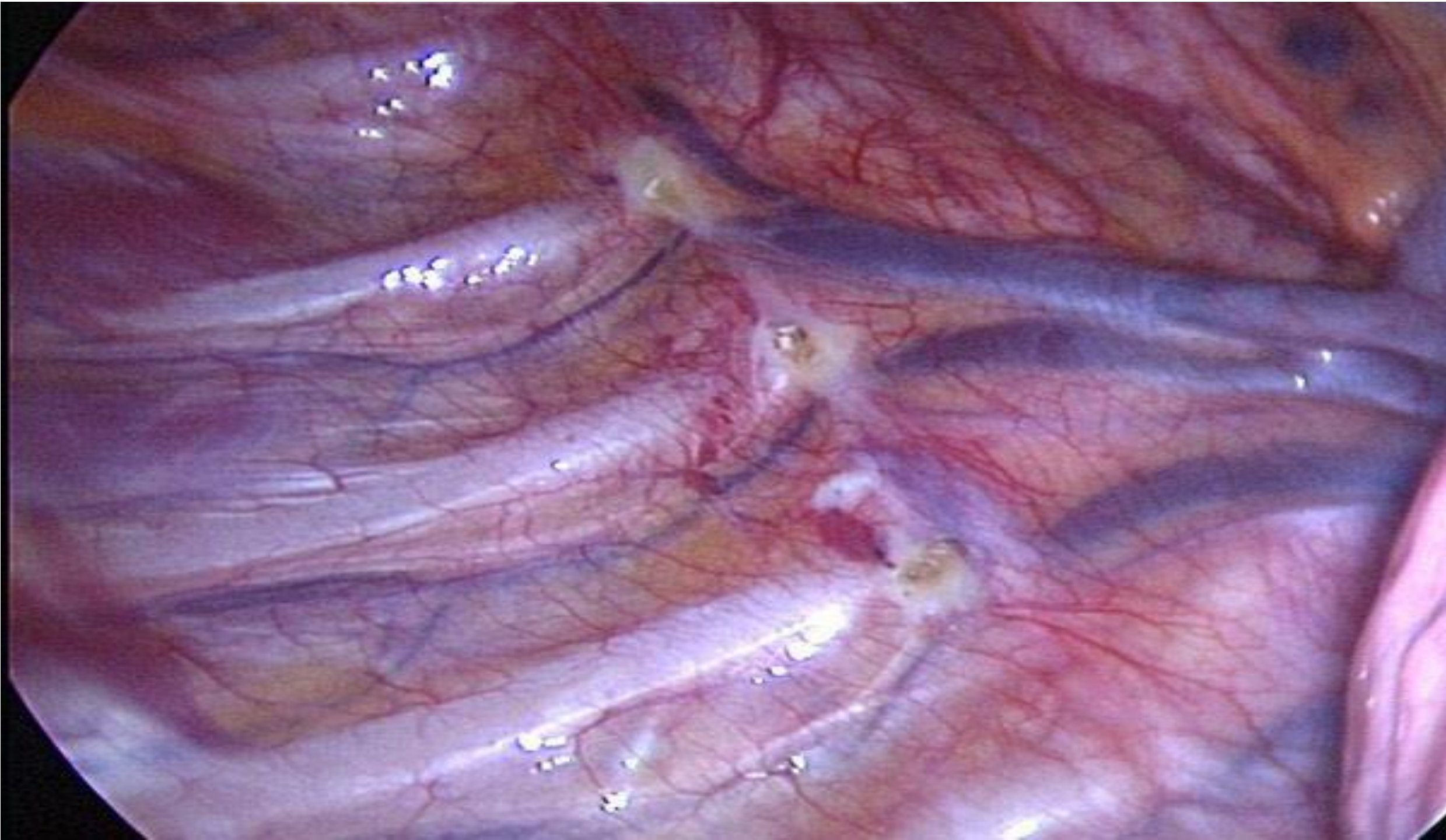
Inferior V. Cava

Clip at ganglion's
upper end

Lumbar ganglion

Lymphatic vessel

Psoas muscle



Thank you!

